

Familiarity, fear, finances & fractious felines

Exploring non-clinical drivers of veterinary antimicrobial choices

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10-SECOND SUMMARY

- Non-clinical influences on vet. antimicrobial choices are complex and interrelated
- Ease of dosing is a central concern
- Some key drivers of suboptimal choices are modifiable through veterinary education and through pharmaceutical company decisions

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BACKGROUND

- Australia uses a OneHealth-based importance ratings system for antimicrobials, categorising each as low, medium or high importance, according to the risk of antimicrobial resistance. These categories are sometimes assigned the traffic-light colours green, amber and red, to aid visual communication of risk.
- The most common systemic antimicrobials prescribed to Australian cats and dogs are medium-importance **amoxicillin-clavulanate** (amoxiclav) and high-importance **cefovecin**. **Cefovecin is a 3rd generation cephalosporin, administered as a 14-day long-acting injection.**
- In contrast, low-importance antimicrobials such as **amoxicillin** and **trimethoprim-sulfa** (TMS) are rarely used (Fig. 1)
- The reasons for these prescribing patterns have not been previously explored in depth in Australia.
- In Australia and many other countries, veterinarians sell most prescribed medications from their own in-clinic dispensaries

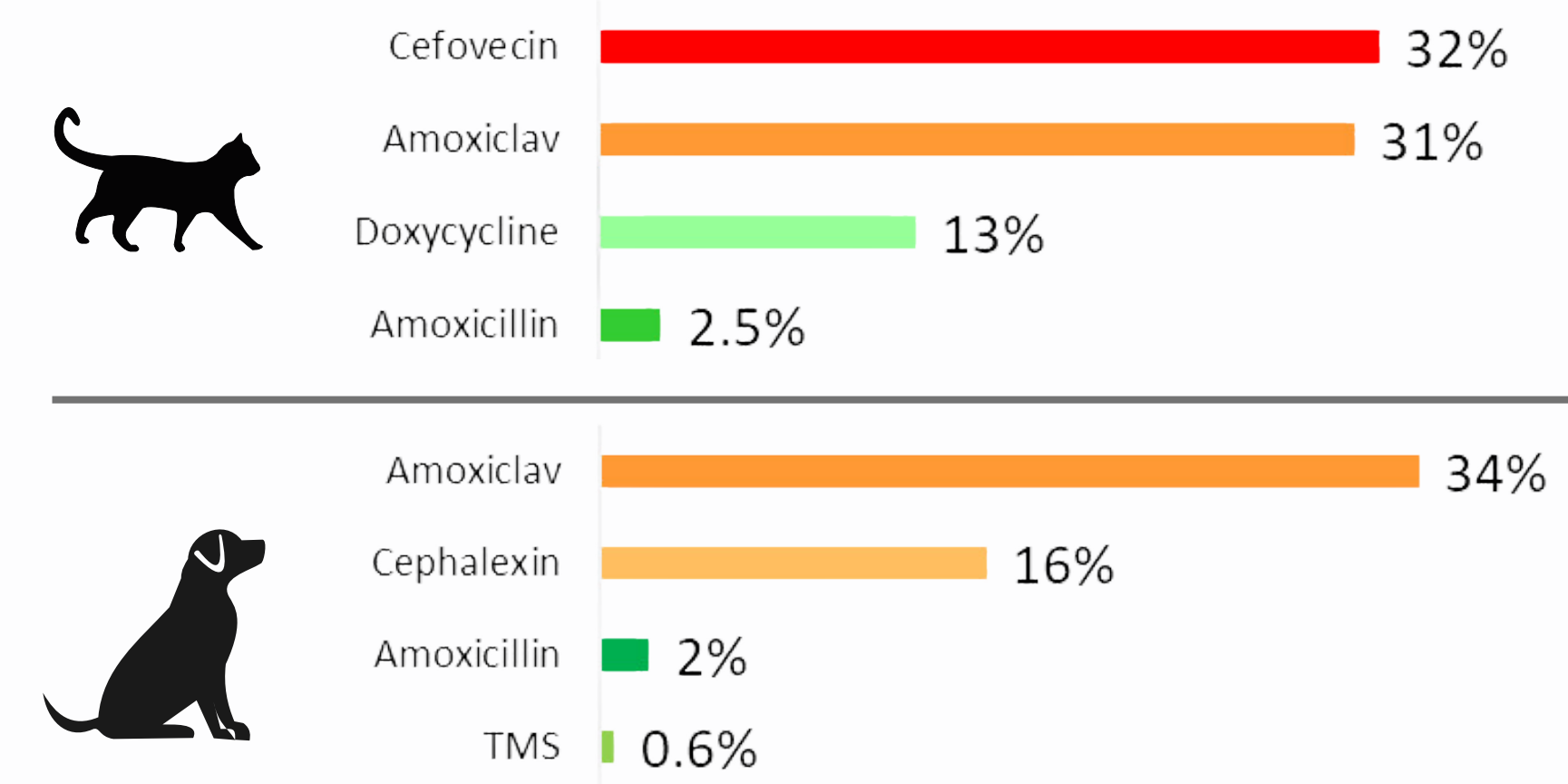


Figure 1: Proportion of cat and dog systemic antimicrobial prescriptions for selected antimicrobials.
 Data from Hur *et al*, PLoS One 2020
<https://doi.org/10.1371/journal.pone.0230049>

STUDY DESIGN

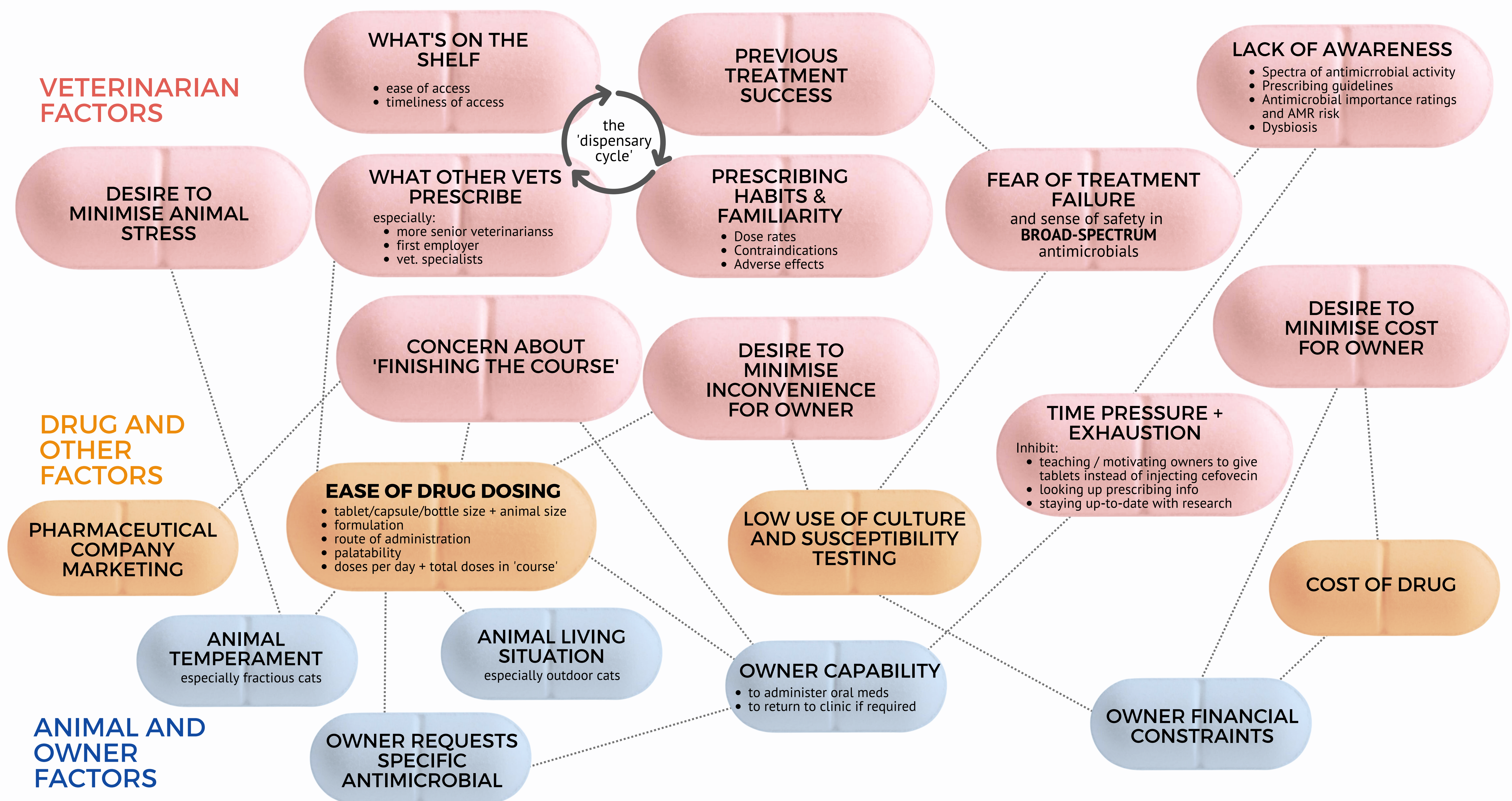


- **In-depth, semi-structured interviews** were conducted with **22 veterinarians** registered in Australia who treated companion animals
- Participants were deliberately selected to represent a **broad range** of clinical experience, seniority, practice types and locations, and levels of interest in AMR/AMS
- Thematic analysis was undertaken in NVivo using a Grounded Theory approach.

I think the main reason I don't use [**amoxicillin**] so much these days is that I kind of forget that it exists and you know, **amoxiclav** is so good for EVERYTHING! [laughter] And I know where the **amoxiclav** is on the shelf. I know it's always there.

—Vet F, 30yo female

MANY INTERRELATED FACTORS INFLUENCE THE VETERINARIAN'S CHOICE OF ANTIMICROBIAL



WHAT DOES THIS STUDY ADD?

This study reinforces many findings of previous studies from the Netherlands and UK, including the influence of veterinary colleagues, habitual prescribing, owner finances and gaps in veterinary antimicrobial knowledge. These gaps could be addressed with education.

To our knowledge, this is the first study to identify:

- That many Australian veterinary practices do not routinely hold stock of low-importance antimicrobials such as **amoxicillin** and **TMS**, and veterinarians tend to **forget** about antimicrobials that aren't on the shelf. AMS initiatives would likely benefit from ensuring there is stock of more low-importance antimicrobials in a practice, before beginning education efforts.
- The self-perpetuating '**dispensary cycle**' that favours **broad-spectrum antimicrobial use**, particularly **amoxiclav**.
- The key influence of the **first veterinary employer** and the **long-lasting effects on prescribing patterns**
- Use of long-acting high-importance **cefovecin** in cats is primarily driven by veterinarians' strong concerns about **finishing the course** of therapy, combined with **low owner capability** to administer oral medications and **fractious cats**
- The significant potential for **pharmaceutical companies** to improve veterinary antimicrobial stewardship by:
 - developing **easy-to-dose formulations of low-importance antimicrobials** for pets
 - more careful **marketing of high-importance antimicrobials** to discourage inappropriate use

These findings should be considered when designing AMS interventions in companion animal practice.



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